

## ABSTRACT OF THE DISCLOSURE

A temperature probe includes an elongated longitudinal tubular shaft having a hollow interior, an insulating structure mounted on the elongated shaft, and a heat conducting structure constructed of a metallic material coupled to the insulating structure. A thermocouple is coupled to the heat conducting structure and extends into the hollow interior of the elongated shaft. A control device is electrically communicated to the thermocouple and is operable to determine a temperature from the thermocouple. When the heat conducting structure is disposed within a mass of packed product, the heat conducting structure transmits thermal energy from the mass to the thermocouple and the insulating structure thermally isolates the heat conducting structure from the tubular shaft.